The City of Burlingame

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January 18, 2002

Ms. Loretta Barsamian
Executive Officer
San Francisco Regional Water
Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
Attention: Mr. Ken Katen, P.E.

Dear Ms. Barsamian:

Subject: Updated Feasibility Study and Request For Compliance Schedule for City of Burlingame, NPDES Permit No. CA0037788

The enclosed feasibility study and related requests for compliance schedules and interim limits are submitted to the Regional Water Quality Control Board (RWQCB) by the City of Burlingame to demonstrate this agency's inability to consistently comply with proposed final water quality-based effluent limits for the following constituents of concern (COCs): copper, mercury, alpha-BHC, and dieldrin. This is an update to the 12/7/01 Feasibility Study to incorporate changes requested in the RWQCB's 12/11/01 comments from Ms. Selina Louie.

BACKGROUND

This study of the feasibility of achieving compliance with proposed final effluent limits for copper, mercury, alpha-BHC, and dieldrin is being provided in response to the water quality-based effluent limits that are stated in the documentation for the RWQCB's 11/7/01 draft Tentative Order for the renewal of NPDES Permit No. CA0037788 for the City of Burlingame Wastewater Treatment Plant. The requirement for feasibility studies as a way to document the need for interim effluent limits was first suggested on May 3, 2001, and further defined in a May 11, 2001, meeting between representatives of Bay area dischargers, the RWQCB, the U. S. Environmental Protection Agency (USEPA), and the State Water Resources Control Board (SWRCB). Five Bay area dischargers submitted feasibility studies to the RWQCB in May and had their permits adopted in June, with effluent limits based on those studies. It is the City's understanding that those studies were sufficient to prove inability to comply with the proposed final water quality-based effluent limits. Hence, this analysis is generally based on those previous examples.

It is the City's understanding that the City must demonstrate that it is infeasible to meet the final effluent limits for the four COCs listed above in order to be granted a compliance schedule and interim effluent limits in the renewed NPDES permit. If the City believes it is infeasible to meet a

California Toxic Rule (CTR)/State Implementation Policy (SIP) water quality-based effluent limit, then the SIP procedures should be followed. Similarly, water quality-based effluent limits based on the Basin Plan should follow procedures outlined in the 1995 Basin Plan. The RWQCB will determine if a compliance schedule and interim limits are appropriate, based on the discharger's submittal. If the RWQCB agrees that immediate compliance is infeasible, and that all the conditions are met, a compliance schedule and interim limit can be established on a constituent-by-constituent basis. Accordingly, if the RWQCB believes that a compliance schedule and interim limits are not justified by this submittal for one or more of the COCs, the City requests that the RWQCB hold the adoption of the Tentative Order (TO) in abeyance until additional data can be provided to allow full consideration of the City's inability to immediately comply with the subject final water quality-based effluent limits.

There are two bases for the feasibility analysis: 1) the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California (known as the SIP - March 2000) which establishes statewide policy for NPDES permitting, and 2) the RWQCB's Basin Plan, 1995. The SIP provides for the situation where an existing NPDES discharger cannot immediately comply with an effluent limitation derived from a California Toxics Rule (CTR) criterion. The SIP allows for the adoption of interim effluent limits and a schedule to achieve compliance with a water quality-based effluent limit in such cases. To qualify for interim limits and a compliance schedule, the discharger must request and/or demonstrate that it is appropriate to establish interim requirements for implementation of CTR criterion.

The term "infeasible" is defined in the SIP as "not capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."

The SIP requires that the following information be submitted to the RWQCB to support a finding of infeasibility:

- Documentation that diligent efforts have been made to quantify pollutant levels in the discharge and sources of the pollutant in the waste stream, including the results of those efforts;
- Documentation of source control and/or pollution minimization efforts currently underway or completed;
- A proposed schedule for additional or future source control measures, pollutant minimization, or waste treatment; and
- A demonstration that the proposed schedule is as short as practicable.

The SIP requires that interim numeric effluent limits be based on (a) current treatment facility performance or (b) limits in the existing permit, whichever is more stringent.

The SIP also requires that compliance schedules be limited to specific time periods. For constituents not on the 303(d) list, the maximum length of the compliance schedule is five years from the date of permit issuance. For constituents on the 303(d) list (where a TMDL is required to be prepared), the maximum length of the compliance schedule is 20 years from the effective date of the SIP (March 2000). To secure the TMDL-based compliance schedule, the discharger must make commitments to support and expedite development of the associated TMDL.

In similar fashion, when a NPDES discharger cannot immediately comply with an effluent limitation from a Basin Plan criterion, the Basin Plan allows the RWQCB to consider the discharger's proposals for longer compliance schedules where the revised effluent limitation will not be immediately met. The Basin Plan justification for compliance schedules is essentially the same as the SIP procedure. Both procedures require implementation of pollution prevention measures to reduce COC loadings to the maximum extent practicable as soon as possible.

CONSTITUENTS TO BE EVALUATED

The constituents for which the City requests interim effluent limits in the renewal of NPDES No. CA0037788 are shown in Table 1.

TABLE 1

CONSTITUENT	ON 303(D) LIST?	BASIS OF LIMIT	
		CTR	BASIN PLAN
Cyanide	No	√	
Mercury	Yes		√
Copper	Yes	√	
Alpha-BHC	No	√	
Dieldrin	Yes	√	

As discussed with RWQCB staff, no feasibility analysis is required for cyanide at this time due to the questionable reasonable potential status which is going to be resolved by a Bay area discharger-sponsored data collection project and site-specific objective (SSO) investigation. Consequently, the feasibility analysis for the City needs to cover only four COCs: Hg, Cu, alpha-BHC, and dieldrin.

PROPOSED WATER QUALITY-BASED EFFLUENT LIMITS AND CURRENT PLANT PERFORMANCE FOR CONSTITUENTS OF CONCERN

The RWQCB staff has transmitted proposed final water quality-based effluent limits for the City for the constituents of concern in a 11/7/01 draft Tentative Order package, which may be modified before final adoption. The proposed final effluent limits and the City's effluent quality are summarized in Table 2 for the constituents of concern. Effluent quality for metals is based on data for sampling conducted between January 1998 and July 2001. Effluent quality for the organics is based on data collected between April 1997 and July 1999.

TABLE 2				
CONSTITUENT OF CONCERN	**FINAL WATER QUALITY-BASED EFFLUENT LIMITS[1]**		**BURLINGAME WWTP EFFLUENT QUALITY[4]**	
	AMEL[2]	**MDEL[3]**	**MEAN**	**MEC[6]**
Copper, ug/L	13.1	23.2	8.6	17
Mercury, ug/L	0.025	0.045	0.10[7]	0.554
alpha-BHC, ug/L	0.013	0.026	(5)	0.04
Dieldrin, ug/L	0.00028	0.00014	(5)	0.08

1 final limits as stated in 11/7/01 draft Tentative Order package for City of Burlingame

2 Average monthly effluent limit

3 Maximum daily effluent limit

4 Data set timeframe for metals is January 1998-July 2001 and April 1997 through July 1999 for organics.

5 Only 1 value detected above detection limits in April 1997. 7 samples collected between April 1997 and July 1999.

6 MEC = Maximum Effluent Concentration observed in the data set [see Section 1.3 of the SIP]

7 Mean calculated assuming that undetected values were equal to the detection limit.

It is the City's understanding that the water quality-based effluent limits shown in Table 2 are calculated using procedures described in Section 1.4 of the SIP. Background values (maximum or average, as appropriate for the COC in question) were derived from Regional Monitoring Program (RMP) data collected at two Central Bay stations (Yerba Buena Island and Richardson Bay). Dilution values used in the calculation of water-quality-based effluent limits were as follows:

- Dilution = 10:1 for non-bioaccumulative pollutants (copper).
- Dilution = zero for 303(d)-listed and bioaccumulative pollutants (mercury, alpha-BHC, and dieldrin).

COMPLIANCE WITH FINAL WATER QUALITY-BASED EFFLUENT LIMITS FOR CONSTITUENTS OF CONCERN

As shown in Table 2, based upon current treatment plant performance as measured using WWTP effluent, the City is unlikely to be able to immediately comply with proposed final effluent limits for the four COCs. As a result, interim effluent limits and a compliance schedule to attempt to meet final limits should be granted in the new Burlingame NPDES permit.

Burlingame WWTP effluent characteristics for copper indicate that immediate compliance with the final effluent limits assigned to Burlingame is unlikely. The MEC concentration would result in permit violations at the proposed AMEL. Therefore, interim effluent limits for copper and a compliance schedule to attempt to meet final copper limits should be granted in the new NPDES permit.

Burlingame WWTP effluent characteristics for mercury indicate that immediate compliance with the final effluent limits assigned to Burlingame is unlikely. The MEC concentration would result in permit violations at the proposed AMEL and MDEL. Therefore, interim effluent limits for mercury

and a compliance schedule to attempt to meet final mercury limits should be granted in the new NPDES permit.

Effluent data for alpha-BHC is limited (only 7 samples) with the most recent sample taken 2 years ago in 1999. The MEC is based on the only detected value (i.e., 0.04 µg/L) of these 7 samples. This sample with a detected value dates back to 1997. With no recent data available, there is no way to determine if the City will be able to comply with the proposed effluent limit. Therefore, rather than imposing a final or interim limit, the new NPDES permit should require additional monitoring to determine the levels of alpha-BHC (if any) in the City's effluent. Until more information regarding alpha-BHC levels in the WWTP effluent is available, the City does not consider it a prudent or effective use of public funds to implement a new pollution prevention program for alpha-BHC.

Effluent data for dieldrin is limited (only 7 samples) with the most recent sample taken 2 years ago in 1999. The MEC is based on the only detected value (i.e., 0.08 µg/L) of these 7 samples. This sample with a detected value dates back to 1997. With no recent data available, there is no way to determine if the City will be able to comply with the proposed effluent limit. Therefore, rather than imposing a final or interim limit, the new NPDES permit should require additional monitoring to determine the levels of dieldrin (if any) in the City's effluent. Until more information regarding dieldrin levels in the WWTP effluent is available, the City does not consider it a prudent or effective use of public funds to implement a new pollution prevention program for dieldrin.

Interim limits requested by the City are listed in Table 3.

TABLE 3

Constituent Of Concern	**Interim Effluent Limits**[1]	**Basis**
Copper, ug/L	28.2	Plant performance (see attached memo dated 1/16/02 for calculations)
Mercury, ug/L	0.087	Pooled data for secondary treatment plants
alpha-BHC, ug/L	0.04	Maximum observed effluent concentration
Dieldrin, ug/L	0.08	Maximum observed effluent concentration

REVIEW OF FEASIBILITY TO MEET FINAL EFFLUENT LIMITS FOR THE CONSTITUENTS OF CONCERN

The remainder of this study discusses for copper, mercury, alpha-BHC, and dieldrin the City's current source identification efforts, the City's current pollution prevention efforts, and the City's proposed future pollution prevention efforts.

Burlingame's Source Identification Efforts for the COCs

Copper

Copper has been identified as a constituent of concern based on the previous permit's effluent limits. As a result, the City monitors its influent and effluent for copper monthly. In addition, copper monitoring has been conducted at four key city locations. Two locations are used to characterize commercial/industrial discharges. The other locations are in residential areas. This

monitoring has not identified any specific locations in the collection system where copper levels are higher. Other source identification efforts included monitoring and inspection of businesses that may be copper sources including auto repair facilities, printers, metal fabricators, and medical facilities.

Mercury
Mercury has not previously been identified by the City as a COC. Therefore, no specific source identification efforts have been conducted. However, the City has begun to conduct mercury pollution prevention efforts as described below.

Alpha-BHC and Dieldrin
Due to the scarcity of data and lack of a previous permit limit, these organochlorine pesticides have not previously been identified as pollutants of concern. The organics data collected as required by the 1995 permit contain mostly undetected values for these constituents. The one detected value for each constituent were detected during one sampling event in 1997. More monitoring would be necessary to determine if these are outliers or potentially representative of the City's effluent quality.

Burlingame's Prior And Existing Pollution Prevent Efforts for the COCs
The City's pollution prevention program and pretreatment program has a staff of 2. Permitted industries are food related businesses discharging mostly conventional pollutants. The service area is primarily residential. Efforts targeting the COCs are discussed below as well as some general information about the City's pollution prevention program.

Copper
In an effort to identify copper sources, City staff mailed surveys to vehicle service facilities, radiator repair shops and printers in 2000. Preliminary data was gathered to assess the extent of their source reduction activities. A waste audit inspection form for these businesses was developed to be used for site inspections planned for 2001-2002.

Mercury
While mercury has not been specifically identified as a COC for Burlingame, the pollution prevention program has recently begun working with mercury sources in general support of this regional issue. In September 2001, the City conducted a thermometer exchange program with the City of Millbrae. During this event, 1400 thermometers were collected as well as approximately 10 pounds of free mercury, 5 switches and 10 thermostats. In addition, plans are underway to develop a permanent mercury collection program, a fluorescent bulb collection program and to establish a fluorescent bulb storage facility at the treatment plant.

Alpha-BHC and Dieldrin
These constituents have not been previously identified as COCs and therefore, no pollution prevention efforts have been conducted or planned targeting these constituents.

Other noteworthy features of the City's existing pollution prevention program include:
- The City has worked successfully with it's permitted industries to achieve significant reductions in pollutant discharges including:

- See's Candies substantially reduced their BOD and TSS discharges through recycling and pretreatment. Concentration wastewater from equipment cleaning activities is collected and hauled to a local yeast cultivator for reuse. An automatic chemical feed pump was installed to minimize the impact of accidental spills and releases to the sanitary sewer.
- Burlingame has worked with other local businesses to install chemical feed systems to reduce spills and minimize accidental releases.
- Two local businesses, Color Copy and Peninsula Hospital have eliminated the need for film/ photoprocessing by switching to digital systems. Both businesses have eliminated their need for silver recovery and substantially reduced their solvent waste streams as a result.

- The City conducts a grease trap/ interceptor inspection program. In 2000, for example, 138 inspections were conducted. Businesses have a high compliance rate with 90% of the businesses meeting the cleaning and documentation requirements.

- The City plays an active role in the San Mateo County Stormwater Pollution Prevention Program conducting stormwater inspections and illicit discharge inspections in Burlingame, and participating in the Commercial/Industrial Illicit Discharge Subcommittee and the Watershed and Monitoring Subcommittee.

- The City has promoted and coordinated the Bay Front Clean Up for the past three years. This local cleanup day is coordinated by the City's Environmental Compliance Office and Public Works. Local businesses volunteer for the event by distributed flyers and posters and donating refreshments. Students and children are involved in the event through the Parks and Recreation Department. In addition to collecting trash and recyclable materials, this event is used as an educational opportunity through the distribution of pollution prevention brochures. In 2001, participation in the event (held during Pollution Prevention Week) doubled and trash collection volume tripled compared to 2000's totals.

- In addition to the Bay Front Clean Up, the City's pollution prevention program conducts a number of public outreach activities including:
  - Handing out P2 materials at Burlingame Art in the Park in June.
  - Conducting plant tours for local groups including the Chamber of Commerce Business Division in 2001.

- Pollution Prevention Program staff participates in the Bay Area Hazardous Waste Reduction Committee.

- The City cosponsors the Water Awareness Poster Contest with the Bay Area Water Users Association.

Burlingame's Proposed Pollution Prevention Actions for the COCs

Copper

The City is planning to follow-up on the surveys conducted in 2000 by conducting site inspections of the printers, auto repair and radiator repair facilities in Burlingame to be completed in 2002. The

City will compile outreach materials and inspection checklists developed by the BAPPG and individual Bay area agencies for these businesses. Outreach materials will be modified as necessary and distributed during the site visits. Checklists will be compared to the one developed by the City and the City will modify its checklist to incorporate information from other checklists as appropriate. The checklists will be used to assess the extent of BMP implementation at each facility. Businesses will be encouraged to become zero discharge facilities as appropriate. Follow-up visits will be conducted approximately 6 months after the initial visits to determine progress. The same checklist will be used for the follow-up visits to allow the City to measure the effectiveness of this portion of the program.

Other activities targeting copper sources will include determining if copper sulfate root control products are used in the service area and contacting other Peninsula POTWs regarding the quality of the water supply. The use and sale of copper sulfate as a root control product and as a cooling tower additive has been banned in the 9 Bay Area counties. The City will visit hardware stores in the service area to verify that copper sulfate containing products are no longer sold. The City will also review any cooling tower additives in use by its permitted industries to verify that they do not contain copper sulfate or tributyl tin (which has also been banned for this use). If use or sale of copper sulfate is identified at any local stores or permitted industries, the City will conduct follow-up visits within 6 months to verify that copper sulfate is no longer in use. The City will contact other Peninsula agencies and the San Francisco Water Department to determine if there are opportunities to reduce the corrosivity of the water supply.

Mercury

As mentioned above, the City is developing a permanent mercury collection program and plans to establish a fluorescent bulb collection facility at the treatment plant in 2002. Number of items collected and people participating in collection events will be tracked to measure the effectiveness of this effort. The City will also survey dentists regarding amalgam waste management practices and will distribute dental outreach materials developed by the BAPPG. The City will contact other local agencies and the California Dental Association to investigate opportunities to jointly approach the local dental society as a first step to working with local dentists. Following outreach efforts, the City will conduct follow-up site visits or a second survey to assess the effectiveness of its efforts with dentists.

Alpha-BHC and Dieldrin

The City will conduct quarterly monitoring of its influent and effluent for organochlorine pesticides in an effort to determine if they are present in the City's discharges and if there are possible influent sources of the constituents.

Future Actions During the Term of the New Permit Related to General Pollution Prevention Activities

The City's pollution prevention program will continue to participate in public events in the service area such as Burlingame Art in the Park and it will continue to coordinate the Bay Front Clean Up during Pollution Prevention Week.

The City will begin to participate more regularly in BAPPG meetings and related activities oriented towards the reduction of Cu and Hg loads to the Bay in an effort to network with other agencies and to identify opportunities for joint projects.

The City will support increased monitoring of effluent and ambient Bay receiving waters for priority pollutants, which include Cu and Hg, as required by the SIP.

The City will continue to participate in the San Mateo County Stormwater Pollution Prevention Program.

The City will also continue its participation in BAHWRC.

The City will increase it efforts to enhance pollution prevention awareness among its own staff.

The City will review the P2 Task/Activity Outline Form developed by Fairfield-Suisun and use it for the City's program as appropriate.

Future City Actions During the Term of the New Permit Related Only to Cu Pollution Prevention Activities

The City will seek to identify additional controllable non-residential and residential copper sources in the Burlingame service area - including copper water line corrosion, cooling towers, swimming pools and spas.

As noted above, the City will contact other local agencies to identify opportunities to address corrsosivity of the water supply.

As noted above, the City will also verify that copper sulfate containing products are no longer being used or sold in the service area. The City will also conduct inspections of vehicle service facilities and printers to assess BMP implementation, distribute outreach materials, and encourage zero discharge operation as appropriate.

Future City Actions During the Term of the New Permit Related Only to Hg Pollution Prevention Activities

The City will update the inventory of dentist offices and, within the limits of available staff time, conduct field inspections of mercury waste disposal methods. These visits will also be used to distribute brochures, such as those regarding BMPs from the BAPPG and other sources, regarding proper disposal methods for mercury wastes. Information will be collected using the BAPPG's dental inspection checklist.

The City will obtain a copy of the BAPPG's 1-hour long September 2001 PowerPoint presentation to the Northern California Dental Association ["Environmentally Responsible Dentistry: Amalgam Management Techniques"] and determine if it can be adapted for use at local dentist trade group meetings in the service area. As noted above the City will contact other Peninsula agencies to identify opportunities for cooperative efforts when working with the local dental society.

The City will continue its efforts to establish a recycling program for discarded fluorescent lamps containing mercury and a permanent program for collecting other mercury containing consumer products.

To stay within annual budget limitations, the City proposes to phase-in the above noted enhancements to its copper and mercury pollution prevention programs over over a 30 month time period starting in the 1st quarter of 2002. The following schedule for the major new tasks is proposed:

Calendar Year That Task Will Be Conducted by the City	Proposed Major New Pollution Prevention Activity
1Q, 2002	Conduct site visits to vehicle service facilities and printers
3Q, 2002	Conduct follow-up visits to vehicle service facilities and printers
2Q, 2002	Set-up Hg pollution prevention programs including bulb recycling, thermometer recovery/exchange, thermostat recovery
3Q, 2002	Work with other local agencies to conduct presentation to local dental society
1Q, 2003	Inventory/inspections of dental offices + literature distribution
2Q, 2003	Investigate use of copper sulfate by permitted industries and sale of copper sulfate by local hardware stores.
3Q, 2003	Contact local agencies regarding opportunities to address water supply corrosivity
4Q, 2003	Conduct follow-up visits to any users or sellers of copper sulfate
1Q, 2004	Initiate other program enhancements proposed in the Feasibility Study

In addition, as discussed above the City will monitor for alpha-BHC and dieldrin in the treatment plant influent and effluent to further characterize the City's wastewater with respect to these constituents.

If you have any questions or need further information regarding the above final Feasibility Study prepared by the City of Burlingame, please contact me at (650) 342-3727.

Sincerely,

William E. Toci
Plant Manager
US Filter Operating Services, Inc.

Enclosure: Burlingame Copper IPBL Analysis dated 1/16/02